APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
09/050,808	03/30/98	MACHIDA	Y	MAT-5860

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EXAMINER
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ART UNIT	PAPER NUMBER
2613	15

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05/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Application No.

09/050,808

Applicant(s)

MACHIDA, YUTAKA

Examiner

Allen Wong

Art Unit

2613

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 March 2001_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-11_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other: _____ .

DETAILED ACTION

Continued Prosecution Application

The request filed on 3/20/01 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/050,808 is acceptable and a CPA has been established. An action on the CPA follows.

Response to Arguments

Applicant's arguments with respect to claims 1-11 have been fully read and considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (5,737,022) in view of Tahara (5,633,682).

Regarding claim 5, Yamaguchi discloses a moving image signal decoding apparatus comprising:

variable length code decoding means (fig.9A, element 102) for decoding at least two motion vectors relating to the present processing pixel block, the first motion vector being constructed from a present video frame and a frame prior to the present video frame (Yamaguchi notes in figure 1, the prior art, the present video frame, ie. current image, the reference image, ie. the frame prior to the present video frame, and the term

"motion vector" formed from the differences between the current image and the

reference image);

motion compensation means (fig.7, elements 113, 141 and 144) for

compensating the motion of a previously coded video frame with respect to each one of

said at least two motion vectors, and generating at least two predicted video frames

relating to the present processing pixel block;

bit error detecting means (fig.7, element 100 is the error detection means, in fig.

9A, element 102 determines if an error exists and if an error does exist, then the

information is supplied to element 103 for flagging the error) for detecting a bit error

from the output of said variable length code decoding means;

memory means (fig.7, element 120) for storing the bit error of said bit error

detecting means; and

predicted video frame selecting means (fig.7, element 150; a selector does

recognize whether decoding error exists and then selects the predicted image to be

used in reconstructing the present processing pixel block) for recognizing presence or

absence of decoding error contained in said at least two predicted video frames, and

selecting the predicted video frame to be used in reconstruction of the present

processing pixel block.

Although Yamaguchi may not appear to disclose "the second motion vector being

constructed from the present video frame and a further video frame at least two frames

prior to the present video frame", however, Tahara teaches a scenario with frame F3 as

the present video frame, frame F2 as the video frame prior to the present video frame,

frame F1 as the further video frame two frames prior to the present video frame (see

figure 4). Further, Tahara's figure shows the motion vector x2 is constructed from the

present video frame F3 and a video frame prior to the present video frame F2. Then the

motion vector x3 is constructed from the present video frame F3 and the further video

frame two frames prior to the present video frame F1. Clearly, one of ordinary skilled in

the art can see that Tahara's motion vector x2 can be the first motion vector and

Tahara's motion vector x3 can be the second motion vector as disclosed by the

applicant. Therefore, it would have been obvious to one of ordinary skill in the art to

combine the teachings of Yamaguchi and Tahara for allowing the smooth display of

sequential video information and for meeting with today's highly complex video

encoding standards.

Note claims 1, 2 and 6 have similar corresponding elements.

Regarding claim 9, Yamaguchi discloses a moving image signal coding

apparatus comprising:

motion vector detecting means (fig.24, element 710) for constructing at least two

motion vectors, the first motion vector being constructed from a present frame and a

frame processed immediately prior to the present frame (Yamaguchi notes in figure 1,

the prior art, the present frame, ie. current image, the reference image, ie. the frame

processed immediately prior to the present frame, and the term "motion vector" formed

from the differences between the current image and the reference image), for relating to

the present processing pixel block;

motion compensation means (fig.24, element 730) for issuing plural predicted

video frames based on stored video frames from the output of said motion vector

detecting means; and

intra/inter judging means (fig.24, elements 740 and 750 form an intra/inter

judging means for determining whether the present processing pixel block when the

correlation of two or more predicted images compensated of motion by said two or more

motion vectors as the output of said motion compensation means is high or low) for

inter-coding the present processing pixel block when the correlation of at least two

predicted video frames compensated of motion by said at least two motion vectors as

the output of said motion compensation means is greater than a predetermined value,

and intra-coding the present processing pixel block when the correlation of said at least

two predicted video frames is less than a predetermined value.

Although Yamaguchi may not appear to disclose "the second motion vector being

constructed from the present frame and the frame processed immediately prior to the

present frame", however, Tahara teaches a scenario with frame F3 as the present

frame, frame F2 as the frame processed immediately prior to the present frame, frame

F1 as the frame processed two frames immediately prior to the present frame (see

figure 4). Further, Tahara's figure shows the motion vector x2 is constructed from the

present frame F3 and a frame processed immediately prior to the present frame F2.

Then the motion vector x3 is constructed from the present frame F3 and the frame

processed two frames immediately prior to the present frame F1. Clearly, one of

ordinary skilled in the art can see that Tahara's motion vector x2 can be the first motion

vector and Tahara's motion vector x3 can be the second motion vector as disclosed by the applicant. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamaguchi and Tahara for permitting a clear, smooth display of sequential video information and for accommodating with today's highly complex video encoding standards.

Note claims 3 and 4 have similar corresponding elements.

As for claims 7 and 8, although Yamaguchi does not specifically disclose the memory (fig.7, element 120) used to store bit errors of each frame into a map format, it would have been obvious to one of ordinary skill in the art to divide any memory into any number of divisible parts so important video information could be organized and stored properly.

Regarding claims 10 and 11, Yamaguchi discloses an adder (fig.7, element 770) which is equivalent to a predicted image combining means since images are being added. Also, Yamaguchi discloses a subtracter (fig.7, element 760) which functions as a prediction error calculating means for obtaining a prediction error. Although Yamaguchi does not specifically use the term "variance" when the intra/inter judging means compare the predictive error data and the present processing pixel block, it is well known that the term "difference" is equivalent to the term "variance" and that the intra/inter judging means does compare the differences between the present processing pixel block and the prediction error from the output of the prediction error calculating means to decide on the next course of action (see fig.24).
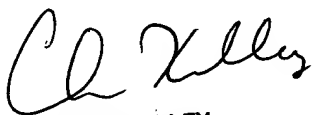
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-5359 for regular communications and (703) 308-6306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

AW
May 24, 2001

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600